

【CLAIMS】

【Claim 1】

A wind turbine for generating power using wind force, comprising:

5 a support unit, comprising a lower base block mounted to a ground, and a cylindrical protruding part extending upwards from an upper surface of the lower base block;

a rotary cylinder surrounding the protruding part, and rotatably supported by the protruding part;

10 a rotating shaft vertically extending from a center of the rotary cylinder, and installed in the rotary cylinder to rotate along with the rotary cylinder, thus transmitting mechanical energy produced by rotation of the rotary cylinder to a power generator;

15 an upper bearing installed on the protruding part to be positioned between the rotary cylinder and the protruding part, and supporting rotation of the rotary cylinder;

a lower bearing installed on the lower base block to be positioned between the rotary cylinder and the lower base block,
20 and supporting a lower portion of the rotary cylinder;

a plurality of vanes installed along an outer circumference of the rotary cylinder at regular angular intervals, the vanes being opened outwards relative to the rotary cylinder or closed to be in close contact with the outer
25 circumference of the rotary cylinder, according to a position

relative to a wind direction; and

angle limiting means to prevent each of the vanes from being opened beyond a preset angle.

5 **【Claim 2】**

The wind turbine according to claim 1, wherein each of the vanes comprises:

10 a frame having a rectangular shape, and having a plane structure which is bendable to have a curvature radius corresponding to a radius of the rotary cylinder, a first side of the frame being hinged to the rotary cylinder so that the frame is closed to be in close contact with the outer circumference of the rotary cylinder or is opened to protrude outwards relative to the rotary cylinder; and

15 cloth or artificial leather installed in the frame to cover an interior of the frame.

【Claim 3】

20 The wind turbine according to claim 1, wherein the angle limiting means comprises a rope which is made of fiber and couples the rotary cylinder to a second side of each of the vanes.

【Claim 4】

25 The wind turbine according to claim 1, wherein each of the

vanes comprises cloth, the cloth being fastened at a first side, an upper side, and a lower side thereof to the rotary cylinder via fastening means, and a second side of the cloth opposite the first side thereof comprises an open end and is longer than
5 the first side, so that, when the open end is positioned in a direction facing a wind, the cloth is expanded and rotates the rotary cylinder by wind force, and, when the open end is positioned in a direction which does not face the wind, the cloth is contracted and reduces rotational resistance of the
10 rotary cylinder.

【Claim 5】

The wind turbine according to claim 4, wherein the rotary cylinder comprises:

15 a cylindrical part having a constant diameter, and providing space for securing the first side of each of the vanes; and

enlarged parts provided on opposite ends of the cylindrical part, and extending from the opposite ends of the
20 cylindrical part such that their diameters are increased outwards, the enlarged parts providing space for securing the upper side and the lower side of each of the vanes.

【Claim 6】

25 The wind turbine according to claim 4, wherein the second

side of each of the vanes is fastened to the rotary cylinder via support cloth so that a center of the second side of each of the vanes is expanded within a predetermined distance range from the rotary cylinder.